ALBUQUERQUE / BERNALILLO COUNTY
AIR QUALITY CONTROL BOARD
NEWSLETTER

Martin J. Chávez, Mayor

Thaddeus Lucero,
Bernalillo County Manager

The Air Shed

PUBLISHED MONTHLY BY THE AIR QUALITY DIVISION

Air Quality Division News

OCTOBER'S AIR QUALITY INDEX:

GOOD!

FOR ACTUAL AQI VALUES, SEE PAGE 5

October-November, 2004

Volume 5, Number 10

City of Albuquerque
Environmental Health Department
Director - 768-2600

Albuquerque / Bernalillo County Air Quality Control Board
768-2600

Air Quality Division Manager
768-1930

Important Phone Numbers
Air Quality Index & Pollen
768-4731 opt 1 or 766-7664
Burn/No Burn 768-BURN (2876)

Ambient Air Monitoring - 768-1969
- National Ambient Air Quality Standards
- AQI & Seasonal Pollen

Compliance & Field Enforcement - 768-1930
- Facility Inspection
- Topsoil Disturbance
- Compliance Assurance
- Asbestos Abatement
- Open Burn Permits
- Woodburning Exemptions

Education, Outreach & Technical Assistance - 768-1970
- Pollution Prevention
- Emergency Preparedness
- Community Outreach
- Small Business Assistance
- *The Air Shed* Newsletter

Permitting & Emission Inventories - 768-1930
- Application Review & Permit Issuance
- Permitting Policy / Development
- Ambient Air Dispersion Modeling
- Emission and Pollutant Inventories
- Aerometric Information Retrieval System [AIRS]

Control Strategies- 768-2600
- Development of Air Quality Regulations
- Preparation of State Implementation Plan elements
- Air Quality Control Board
- Review Federal environmental assessments

Public Health Initiatives - 767-5621
- Air Quality Complaints
- Indoor Air

Quality Assurance - 768-1963
- EPA Reporting
- Review & Validation of Data

Cleaner Diesels in Albuquerque

The City of Albuquerque and Kirtland Air Force Base have each taken important steps to reduce emissions from diesel-powered vehicles in their fleets.

The City of Albuquerque has received almost $130,000 in federal grants which will enable it to retrofit thirty-five of its 1997 and 1998 vintage residential trash collection trucks with catalytic converters similar to the ones used in gasoline-fueled passenger vehicles since the mid-1970's, and to fuel those vehicles with B-20 bio-diesel fuel. Catalytic converters, components of the vehicle's exhaust system, work to reduce emissions by passing the exhaust gases through a ceramic matrix coated with rare earth elements such as platinum or palladium The converters stimulate oxidation reactions that reduce both particulate and volatile organic emissions from the vehicle. Until recently, impurities such as sulfur in diesel fuel have prevented diesel vehicles from using catalytic converters. Newer fuels, including bio-diesel produced from vegetable fats and traditional petroleum-based diesel fuel with reduced sulfur content, have made use of catalytic converters possible in diesel applications.

Emissions reductions of almost 60% are expected from those vehicles that are both retrofitted with catalytic converters and fueled with B-20 bio-diesel.

In addition to the relatively small number of vehicles being equipped with catalytic converters, the City is also moving toward the exclusive use of B-20 bio-diesel fuel in its entire fleet of diesel-powered vehicles. B-20, a fuel composed of 80% traditional petroleum-based diesel fuel mixed with 20% bio-diesel. Bio-diesel can be produced from a variety of vegetable oils including oils from rape seed and soy beans and even re-cycled cooking oils. The hybrid fuel, even if used without the converters, dramatically reduces particulate emissions from diesel engines. B-20 fuel is currently being dispensed at three of the City's fueling stations with 100% conversion to B-20 Citywide expected by the end of November of this year. Approximately 600 City vehicles are currently fueled with B-20, accounting for a projected 500,000 gallons of fuel per year. Once the conversion to B–20 is complete the City expects usage of the fuel to top out at 750,000 gallons per year.

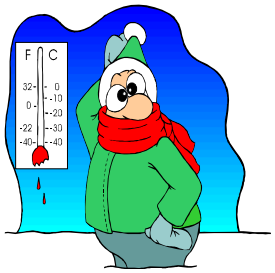
Kirtland Air Force Base has also committed to fueling its entire diesel-powered fleet, including even some stationary diesel-powered equipment such as generators and compressors, with B-20 bio-diesel fuel. Kirtland's and the City's commitments mean that almost 200 diesel engines in our community will now run cleaner than ever before. Kudos to the City and to Kirtland Air Force Base for taking the lead in reducing emissions from diesel engines.

AIR QUALITY CONTROL BOARD REPORT

The Albuquerque/Bernalillo County Air Quality Control Board did not meet in October. The Board report will re-appear in this space in December.

Winter Advisory Season Starts

October 1 marks the start of the winter advisory season when special restrictions are put in place to minimize pollution episodes prevalent here during the colder winter months. Winter weather patterns often lead to temperature inversions, a meteorological phenomenon that prevents normal air circulation patterns from dispersing pollution.



The No Burn Program was developed to help reduce the output of carbon monoxide and also to reduce other compounds that contribute to the formation of smog. The Program restricts when Bernalillo County residents can use their non-EPA certified wood burning fireplaces or stoves. Factors such as current pollutant levels, daily weather patterns, air movement, and temperature levels are all taken into consideration daily before a no-burn call is made. The No Burn season lasts from October 1st through February 28/29th. **Call (505) 768-BURN (768-2876)** to hear a recorded message on whether or not it is okay to burn for the day. The message is updated daily at 11:00 a.m., and is applicable for 24 hours through 11:00 a.m. the following day. Local television and radio stations also include information regarding whether or not it's OK to burn.

Starting November 1 through the last day of February, all gasoline dispensed in Bernalillo County must be oxygenated. Oxygenated fuel is gasoline that has been spiked with an oxygenate such as alcohol or ether. Oxygenates add oxygen to gasoline and promote cleaner, more complete combustion. The main reason Albuquerque benefits from an oxygenated fuels program is the mile-high elevation provides less oxygen for gasoline combustion than would be found in similar cities at lower altitudes. Many vehicles without proper adjustment run too "rich" at this altitude, getting too much gas and not enough air into the combustion chambers of the engine. This causes incomplete combustion and increases the carbon monoxide and hydrocarbon emissions while reducing gas mileage. The addition of oxygenates to the gasoline compensates for the lower oxygen levels and therefore, promotes cleaner burning, better running vehicles. For more information regarding the Oxygenated Fuels Program, call Vehicle Pollution Management Division at 505-764-1110 or check the City's website at www.cabq.gov.

Albuquerque / Bernalillo County Air Quality Control Board

Board Members & Staff

Stephen Pilon, City
Karen Wentworth, County
Johnnye Lewis - County
Sue Umshler - County (Chair)
Betty Chang - City (Vice Chair)
Donald Naranjo - City
Vacant - City

Martin J. Chávez, Mayor
City of Albuquerque

Alfredo Santistevan, Director
Environmental Health Department

Isreal L. Tavarez
Air Quality Division Manager/
Secretary to the Board

Adelia Kearny
Assistant City Attorney

Glen Dennis
Vehicle Pollution Management Division Manager

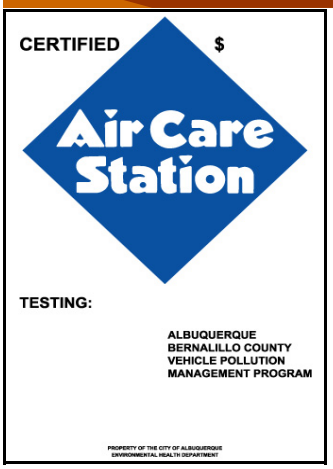
Jens Deichmann
Environmental Planning Commission Liaison

Monthly Board Meetings

Board meetings are usually held the second Wednesday of each month at 5:15 p.m. in the Council/Commission Chambers, lower level, Albuquerque/ Bernalillo County Government Center, 1 Civic Plaza, 400 Marquette Avenue NW Albuquerque, NM.

Agendas, which will show the correct date and meeting place, are generally available three days before the meeting and can be obtained by contacting Mr. Neal Butt at 505-768-2660 or via e-mail at: nbutt@cabq.gov.

Notice to persons with disabilities: If you have a disability and require special assistance to participate in any Board meeting please call the Air Quality Division at 505-768-2600 (Voice) or 505-768-2482 (TTY)



Vehicle Pollution Management Program Report

Vehicle Inspection and Maintenance Program:

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Two new Air Care Stations were certified and opened in October. The new stations are Cross Country Auto Service at 6904 Menaul Blvd NE and Lawrence's Automotive at 916 Sunset Rd. SW (5-points). The County of Bernalillo Fleet Maintenance Department at 2400 Broadway Blvd SE also purchased a new Worldwide EIS-5000 emissions analyzer and was approved as a Fleet testing facility. Fleet facilities are not open to the general public and can only conduct tests on their own government or commercial fleet vehicles. The City of Albuquerque's Fleet Maintenance and Transit Departments also operate fleet testing facilities.

Three EIS-5000 emission analyzers failed gas audits in October and were shut down by VPMD field audit staff until repaired by the local Worldwide Inc. service technician. The analyzers that were red-tagged were located at Rich Ford, Rich Mazda, and Casa Chevrolet.

Clark Truck and Equipment Inc. completed modifications to VPMD's compressed natural gas Dodge pickup to serve as a dedicated gas audit vehicle. Modifications included fabrication of a four gas cylinder rack and a protective bed cover with hydraulic lifts. This will allow VPMD to conduct more comprehensive gas audits of the new BAR97 analyzers than we are currently able to do with just one mid-range audit gas bottle. Gas audits are important for ensuring the accuracy of the testing done by private contractors in this decentralized test and repair program.

Air Care Inspector Training Program:

Despite a sign-up list of sixteen and waiting list of five, only seven students attended the October Air Care inspector certification course. All seven successfully completed the course and are now certified Air Care inspectors. Thirteen students are currently attending the November class.

Oxygenated Fuels Program:

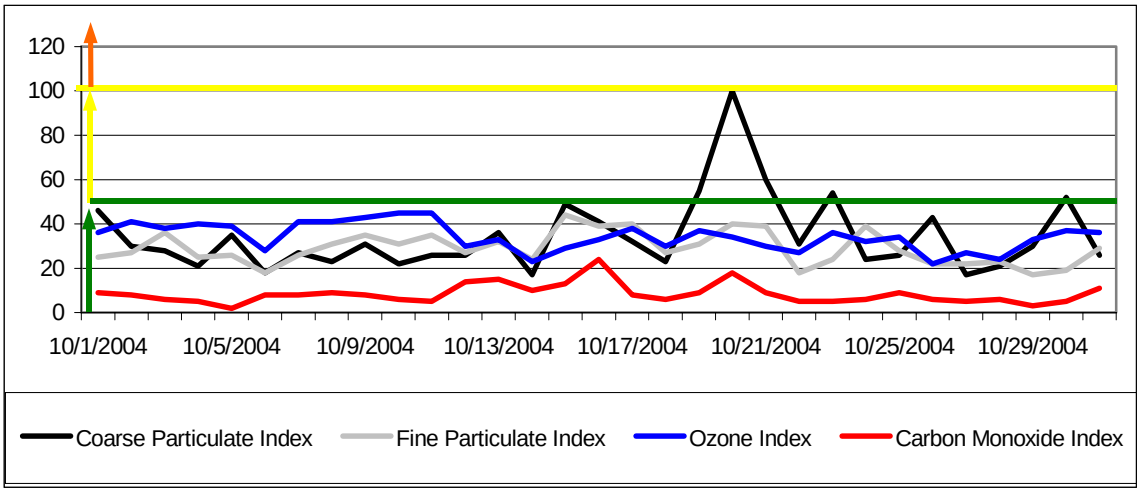
The oxygenated fuels program entered its 15th season on November 1st. From the 1st day of November until the last day of February each winter, all gasoline dispensed in Bernalillo County is required to contain a minimum of 2.7% oxygen by weight in order to reduce carbon monoxide emissions from vehicles. This requires approximately 7.8% ethanol by volume and results in a carbon monoxide reduction of almost 20%. The typical "Albuquerque blend" delivered at the distribution racks is 8% ethanol to allow for some margin of error. VPMD is required to assure compliance by sampling at least 20% of the retail fuel tanks for proper oxygenate content. Compliance has been excellent for the past several years and we expect few problems this year since gasoline is more expensive than domestically produced ethanol. Due to difficulties in repairing and/or replacing the program's existing oxylab gas chromatograph, VPMD has made contingency plans to contract with the New Mexico Agriculture Department's Petroleum Standards Bureau to analyze our oxyfuel samples this winter.

AIR QUALITY DATA FOR OCTOBER, 2004

The Air Quality Index [AQI] values indicate how clean or polluted ambient air is, and if there are any health concerns associated with a specific value. The AQI in Bernalillo County is measured for four [4] nationally regulated air pollutants: Carbon Monoxide [CO], Ozone [O_3], Coarse Particulate [PM10] and Fine Particulate [PM2.5].

As shown by the graph below, AQI values were "Good" to "Moderate" in October, which means that air pollutants at this level pose little or no health risks to our community, but those members of our community who already have respiratory problems may be slightly affected. Thus, as the values increase into a higher category, health risks will similarly increase. As you may have guessed, the last category, "Hazardous", with AQI values greater than 300, is very serious and can be detrimental to the health of the whole community even if emergency health warnings are triggered. Call the Air Quality Information Line at 766-7664 or 768-4731 Option 1 to get today's AQI Values.

AIR QUALITY INDEX
Hazardous > 300
Very Unhealthy 201 - 300
Unhealthy 151 - 200
Unhealthy for Sensitive Groups 101 - 150
Moderate 51 - 100
Good 0 - 50



Should You Re-tire?

Your tires are the only part of your car that meets the road. They are a critical safety component of your vehicle and deserve your attention. Careful inspection and maintenance of your tires will make you and your family safer and can save you money as well. Tires can even be a good indicator of potential problems with your vehicle. Learn to "read" your tires. Take a close look at your tires today. They may just have a story to tell.

Proper inflation is critical to both safety and tire performance. Over-inflated tires produce a harsh ride, don't grip as well, and wear prematurely. Under-inflated tires can overheat, possibly causing the tire to fail unexpectedly, and will render poorer fuel economy (and more pollution) due to increased rolling resistance. Check your tire pressure at least once per month. Make sure to check the tires when they're cold, if possible, before the car has been driven even a mile. Tires heat up quickly as the vehicle is driven and gain pressure as they warm up. Checking them when they are cold will ensure an accurate reading. Follow the manufacturer's recommendations for tire pressure. Check your owner's manual or the decal located usually on the driver's door jamb for tire pressure specifications. The tire itself will also be stamped with the **maximum** recommended pressure for that particular tire. Note that the maximum pressure should only be used when the vehicle is carrying a heavy load.

Tires that show scalloped edges on the outside edges of the tread surface indicate either improper tire balance or possibly worn suspension parts. Tires with saw-toothed or "feathered" tread edges are an indication of improper wheel alignment. A visit to your mechanic will be necessary to correct either of these problems.

Make sure to follow the manufacturer's recommendations and rotate your tires frequently. Tire rotation (moving the tires to different corners of the vehicle) will ensure even, consistent wear on all four tires. When you re-tire your vehicle, shop for tires with the lowest rolling resistance for the best possible fuel economy. Happy motoring!

Wintertime and the Risks of Indoor Air Pollution

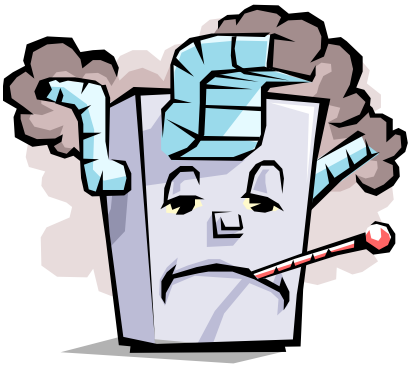
The chilly nip in the morning air serves as a reminder that it's time to button up the swamp cooler and seal up the house for winter. Saturday mornings are filled with the sound of leaf blowers and the unmistakable smell of fall smoldering in backyards everywhere. Winter is close at hand and it's time to move indoors. But our warm, cozy houses can become very unhealthy places in the wintertime unless adequate precautions are taken to mitigate indoor air pollution. Here are a few tips to help you protect yourself and your family from the pollution risks that wintertime poses.

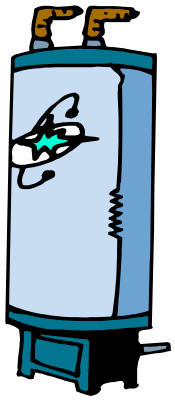
There are many sources of indoor air pollution in any home. These include combustion sources such as oil, gas, kerosene, coal, and wood space and water heaters, tobacco smoke, mold, various household cleaning products, paints and solvents, even building materials as diverse as cabinetry or furniture made of certain pressed wood products. Pollution such as radon and pesticides can also migrate into the home from outdoors. While these risks are present in every home to some extent all year long, the effects are more pronounced during the winter months because we spend more time indoors with doors and windows closed against winter's chill.

The relative importance of any pollution source depends on the amount of pollution it releases and how hazardous those pollutants are. Some sources, such as building materials, furnishings, and household products like air fresheners release pollutants slowly but constantly. Other sources, such as space heaters and cook stoves operate only intermittently, but can release large amounts of pollution in a short period of time if maladjusted. Some groups are also more susceptible to indoor air pollution than others. Generally speaking, young children and older adults are at the greatest risk from indoor air pollution. Children have a higher respiratory rate than adults and are usually more active, therefore inhaling greater amounts of air into their young lungs. Older adults often have other ailments that are exacerbated by polluted air and are less able to ward off the impacts of pollution. Symptoms of other episodic ailments such as asthma, hypersensitivity pneumonitis and humidifier fever may be triggered by indoor air pollution. Health effects of air pollution may show up after a single exposure or may only manifest themselves after years of repeated exposures. Symptoms of air pollution include, but aren't limited to, irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue. Since these symptoms also accompany common wintertime ailments such as colds or flu, a doctor's diagnosis may be the only way to tell if the cause of the symptoms is related to air pollution or some other irritant. While pollutants commonly found in indoor air are responsible for many harmful health effects, there is considerable uncertainty about what concentrations or periods of exposure are necessary to produce specific health problems. Please check with your doctor for a more definitive diagnosis.

Not all homes are created equal either. Modern homes are often tightly sealed to make them more energy-efficient, but that also often leads to higher levels of indoor air pollution. The rate at which outdoor air replaces indoor air is called the air exchange rate. In tightly-sealed homes the air exchange rate is low, allowing pollution levels to build up. The tighter the home is built, the more attention must be paid to ensure that indoor appliances are properly adjusted and vented to prevent the buildup of dangerous levels of pollution. So-called "leaky", older, less well-constructed homes may offer some advantages in that respect since fresh, outdoor air constantly "leaks" in to replace the stagnant, polluted air inside.

Of all the possible indoor pollution sources, combustion appliances such as water heaters, stoves and space heaters pose the most immediate and potentially dangerous risks. While these appliances are generally safe, especially ones produced within the last decade, under certain circumstances these appliances can produce pollutants that can cause immediate health risks or even death. Combustion by-products from these sources include carbon monoxide, nitrogen dioxide, particles of several species, formaldehyde, and sulfur dioxide. Carbon monoxide, a colorless, odorless, tasteless gas produced during the combustion of fossil fuels, is especially dangerous since, even at potentially lethal levels, it isn't detectable without special equipment The specific amounts and species of pollutants produced by these devices depend on the fuel burned (natural gas, propane, fuel oil, kerosene, wood or coal), and how well the device was installed, maintained, and vented. The most important thing to remember when dealing with indoor combustion devices is to follow the manufacturer's specifications regarding installation and maintenance and to service the device frequently. If purchasing new equipment, look for the endorsement of either the American Gas Association or Underwriter's Laboratory. Check the filters and vents each year to make sure they are operating correctly. If you suspect that your household combustion device isn't operating correctly, call a licensed plumber immediately to have it checked.





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Wintertime...cont'd from last page.

Wood-burning stoves and fireplaces remain popular choices for home heating appliances here in New Mexico. Once again, it's important to follow the manufacturer's directions when installing and operating your wood-burning appliance. Burn only dry, seasoned wood in your stove or fireplace to minimize the buildup of creosote, the dangerous oily, black residue that accumulates inside the chimney and can cause disastrous chimney fires. Green wood doesn't burn efficiently and produces less heat and more pollution than dry wood. Fully open the flue and air dampers until the appliance fully heats up to ensure complete combustion and reduce the amount of carbon monoxide produced. Have the flue professionally inspected and cleaned annually or oftener to maximize the efficiency of the stove and ensure safe operation.

There are restrictions against wood-burning in Bernalillo County when weather conditions are conducive to trapping smoke and pollution. Check the City's website at www.cabq.gov or call 768-BURN to make sure it's OK to use your wood stove or fireplace. Exemptions are available if wood-burning is your only source of heat, if wood-burning is prescribed by your physician as a medical treatment, or if a homeowner qualifies for low income energy assistance.

Toxic Mold-*Stachybotrys Chartarum.* Image Courtesy of the American Phytopathological Society

There has also been much attention given to mold as an indoor air pollutant. Molds are fungi that can be found both indoors and outdoors. There are literally thousands of species of molds. Molds reproduce by spreading spores that are carried about by air currents. Molds can be found almost anywhere; they can grow on virtually any substance, providing moisture is present. There are molds that can grow on wood, paper, carpet, and foods. Molds grow best in warm, moist areas like basements and showers (shower curtains are especially prone to mold buildup). Some people are more sensitive to mold than others. Symptoms of mold allergies include nasal stuffiness, eye irritations, or wheezing. In all cases, the key to controlling mold is to control moisture. Keep the humidity level in your home below 50% (usually not a problem here in New Mexico). Use an air conditioner or dehumidifier if necessary to control humidity. Make sure your home has adequate ventilation, including exhaust fans in the kitchen and bathroom. Add mold inhibitors to paints used in your kitchen or bathrooms. Avoid using carpet in your bathroom or basement or anywhere that remains damp. Make sure that any areas within your home that have gotten wet are dried within twenty-four hours to prevent mold growth. Mold growth can be removed with commercial products or a weak bleach solution (1 cup of bleach in 1 gallon of water) but will reappear if that area remains damp. For more information about household mold, consult EPA's website at http://www.epa.gov/mold/moldresources.html.

Also on the list of potential indoor air pollutants is Formaldehyde. Formaldehyde is an important chemical used widely by industry to manufacture building materials and numerous household products. It is also a by-product of combustion and certain other natural processes. Thus, it may be present in substantial concentrations both indoors and outdoors. Sources of formaldehyde in the home include building materials, smoking, household products, and the use of un-vented, fuel-burning appliances like gas stoves or kerosene space heaters. Formaldehyde, by itself or in combination with other chemicals, serves a number of purposes in manufactured products. For example, it is used to add permanent-press qualities to clothing and draperies, as a component of glues and adhesives, and as a preservative in some paints and coating products. In homes, the most significant sources of formaldehyde are likely to be pressed wood products made using adhesives that contain urea-formaldehyde (UF) resins. Pressed wood products made for indoor use include: particleboard (used as sub-flooring and shelving and in cabinetry and furniture); hardwood plywood paneling (used for decorative wall covering and used in cabinets and furniture); and medium density fiberboard (used for drawer fronts, cabinets, and furniture tops). Medium density fiberboard contains a higher resin-to-wood ratio than any other UF pressed wood product and is generally recognized as being the highest formaldehyde-emitting pressed wood product.

The rate at which products like pressed wood or textiles release formaldehyde can change. Formaldehyde emissions will generally decrease as products age. When the products are new, high indoor temperatures or humidity can cause increased release of formaldehyde from these products. During the 1970s, many homeowners had urea-formaldehyde foam insulation (UFFI) installed in the wall cavities of their homes as an energy conservation measure. However, many of these homes were found to have relatively high indoor concentrations of formaldehyde soon after the UFFI installation. Few homes are now being insulated with this product. Studies show that formaldehyde emissions from UFFI decline with time; therefore, homes in which UFFI was installed many years ago are unlikely to have high levels of formaldehyde now.

Formaldehyde, emitted as a colorless, pungent-smelling gas, can cause watery eyes, burning sensations in the eyes and throat, nausea, and difficulty in breathing in some humans exposed at elevated levels (above 0.1 parts per million). High concentrations may trigger attacks in people with asthma. There is evidence that some people can develop a sensitivity to formaldehyde. It has also been shown to cause cancer in animals and may cause cancer in humans. Health effects include eye, nose, and throat irritation; wheezing and coughing; fatigue; skin rash; severe allergic reactions. May cause cancer. May also cause other effects listed under "organic gases", EPA's Integrated Risk Information System profile at http://www.epa.gov/iris/subst/0419.htm.